UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,979	10/29/2003	Raimo Bakis	YOR920030379US1	8009

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2626	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

PTOL-90A (Rev. 10/06)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 October 2003*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 October 2003* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *20031029*.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   This office action is in response to application 10/695,979 filed on October 29,

2003. Claims 1-33 are pending in the application and have been examined.

Information Disclosure Statement

2.   The Information Disclosure Statement filed on October 29, 2003 has been

considered in this application.

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4.   Claims 1-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Henton

(US Patent 5,860,064).

5.   Consider claim 1, Henton teaches a method (figure 5), comprising:

identifying text to convert to speech (select text, step 501);

selecting a speech style sheet from a set of available speech style sheets, said

speech style sheet defining desired speech characteristics (Choose vocal emotion for

selected text; step 503);

marking said text to associate said text with said selected speech style sheet

(figures 2-4 show marking text with colors, size, and boldface in order to associate text

with a speech style); and

converting said text to speech having said desired speech characteristics by

applying a low level markup generated by said speech style sheet (Look up synthesizer

values for chosen emotion in emotion table [table 2], step 505. Apply speech

synthesizer vocal emotion values to the chosen text, step 507.).

6.   Consider claim 2, Henton teaches a method according to claim 1, further

comprising:

sending said text with said low level markup to an output device (Obtained vocal

parameters will be outputted by the text to speech system; column 4, line 45. Values

shown in Table 2 are input to the speech synthesizer, Column 10, line 42.).

7.   Consider claim 3, Henton teaches a method according to claim 1, further

comprising:

identifying at least one low level markup (columns of Table 2);

defining a voice style at least in part by associating said voice style with said at

least one low level markup (Table 2 gives examples of the defined emotions of the

preferred embodiment of the present invention with their associated vocal emotion

values; column 9, line 56.); and

associating a speech style sheet with said voice style (Figure 1, device contains

a memory for holding said vocal emotions parameters associated with emotions,

column 4, line 54. Applicant defines the speech style sheet as a database; page 11,

line 16. Therefore Henton teaches a style sheet.).

8.   Consider claim 4, Henton teaches a method according to claim 3, wherein said

associating said speech style sheet with said voice style includes:

creating said speech style sheet (As such, note that the particular values shown

are easily modifiable, by the system implementer and/or the user, to thus allow for

differences in cultural interpretations and user/listener perceptions; column 9, line 61. If

parameters are modifiable, one could easily create emotional styles.).

9.   Consider claim 5, Henton teaches a method according to claim 3, wherein said

associating said speech style sheet with said voice style includes:

editing said speech style sheet (As such, note that the particular values shown

are easily modifiable, by the system implementer and/or the user, to thus allow for

differences in cultural interpretations and user/listener perceptions; column 9, line 61.).

10.   Consider claim 6, Henton teaches a method according to claim 1, wherein said

low level markup defines at least one of a pitch, a prosody, a voice quality, a duration, a

tremor, a timbre, a speed, an intonation, a timing, a volume, and a pronunciation rule

(Table 2 gives examples of the defined emotions of the preferred embodiment of the

present invention with their associated vocal emotion values; column 9, line 56. Table

2, shows pitch mean, range, volume, and speaking rate.).

11.   Consider claim 7, Henton teaches a method according to claim 1, further

comprising:

        providing said speech style sheet to at least one of a text-to-speech developer

and a text-to-speech device (As such, note that the particular values shown are easily

modifiable, by the system implementer and/or the user, to thus allow for differences in

cultural interpretations and user/listener perceptions; column 9, line 61. Style sheets

must be presented to a developer to be modified. Obtained vocal parameters will be

outputted by the text to speech system; column 4, line 45. Values shown in Table 2 are

input to the speech synthesizer, Column 10, line 42.).

12.   Consider claim 8, Henton teaches a method according to claim 1, further

comprising:

        compiling a library of speech style sheets. (Figure 1, device contains a memory

for holding said vocal emotions parameters associated with emotions, column 4, line 54.

The vocal parameters associated with an emotion was inherently programmed into

memory.)

13.   Consider claim 9, Henton teaches a method according to claim 1, further

comprising:

identifying at least one low level markup (column 11 lines 28-35 show text

marked up with low level parameters.);

associating a speech style sheet with said at least one low level markup (Column

11 lines 28-35 show text marked up with low level parameters that were a result of

applying different vocal emotions [from table 2] to different portions of text; column 11,

line 1.).

14.   Consider claim 10, Henton teaches a method according to claim 1, wherein said

speech style sheet is selected from a menu of available speech style sheets (Figure 2

shows at the top a menu of emotions.).

15.   Consider claim 11, Henton teaches a method according to claim 1, wherein said

marking of said text includes annotating said text with an annotation such as

underlining, bolding, italicizing, highlighting, color-coding, coding, adding a symbol, a

mark, or a design (Figures 2-4 show marking up text using color coding, bolding, and

font size changes for emotions; column 9, line 7.).

16.   Consider claim 12, Henton teaches a method according to claim 1, wherein said

converting said text to speech includes:

identifying said low level markup associated with said speech style sheet

(Column 11 lines 28-35 show text marked up with low level parameters that were a

result of applying different vocal emotions [from table 2] to different portions of text;

column 11, line 1.); and

converting said marking of said text to said low level markup (Figures 2-4, text is

marked using color codes to determine an emotion; described in detail column 7 line 60-

column 9 line 11. Figure 5, Look up synthesizer values for chosen emotion in emotion

table [table 2], step 505. Apply speech synthesizer vocal emotion values to the chosen

text, step 507. Final marked up text with emotion values shown in column 11, line 28-

35.).

17.   Consider claim 13, Henton teaches a method according to claim 1, wherein said

marking of said text further associates said text with a voice style associated with said

speech style sheet (Figures 2-4, text is marked using color codes to determine an

emotion; described in detail column 7 line 60-column 9 line 11. Emotions and

parameters are shown in table 2.).

18.   Consider claim 14, Henton teaches a method according to claim 13, wherein said

voice style represents at least one of an age, an educational level, an emotion, a

feeling, a physical trait, a personality trait, and a speech category (Henton teaches a

method for automatic application of vocal emotion parameters, abstract.).

19.   Consider claim 15, Henton teaches a method according to claim 1, wherein said

low level markup allows a text-to-speech developer to convey a certain amount of

information using less text. (Column 11 lines 28-35 show text marked up with low level

parameters that were a result of applying different vocal emotions [from table 2] to

different portions of text; column 11, line 1. These low level parameters convey

information using text to the synthesizer.)

20.   Consider claim 16, Henton teaches a method according to claim 1, wherein said

selecting is performed by a text-to-speech developer not having expertise in voice arts

(What is needed, therefore, is an intuitive graphical interface for specification and

modification of vocal emotion of synthetic speech; column 2, line 36. Further, the

present invention provides for the automatic specification of prosodic controls which

create vocal emotional affect in synthetic speech produced with a concatenative speech

synthesizer, column 2, line 64.).

21.   Consider claim 17, Henton teaches a speech style sheet (Figure 1, device

contains a memory for holding said vocal emotions parameters associated with

emotions, column 4, line 54. Applicant defines the speech style sheet as a database;

page 11, line 16. Therefore Henton teaches a style sheet.), comprising:

at least one voice style associated with at least one voice-type, said at least one

voice style relating a high level markup of said voice-type to a low level markup of said

voice-type (Device contains a memory for holding said vocal emotions parameters

associated with emotions, column 4, line 54. Associations are shown in table 2. Figures

2-4 show marking up text using color coding, bolding, and font size to associate

emotions with text for emotions; column 9, line 7.).

22.   Consider claim 18, Henton teaches the speech style sheet according to claim 17,

wherein said high level markup of said voice-type is a text markup (Figures 2-4 show

marking up text using color coding, bolding, and font size changes for emotions;

columns 7 line 61 - 9, line 11.).

23.   Consider claim 19, Henton teaches the speech style sheet according to claim 17,

wherein said high level markup includes at least one of an underlining, a bolding, an

italicizing, a highlighting, a color-coding, an annotation, a coding, and an application of

at least one of a symbol, a mark, and a design (Figures 2-4 show marking up text using

color coding, bolding, and font size changes for emotions; columns 7 line 61 - 9, line

11.).

24.   Consider claim 20, Henton teaches the speech style sheet according to claim 17,

wherein said low level markup of said voice-type includes code causing generation of

speech having particular speech properties (Column 11 lines 28-35 show text marked

up with low level parameters that were a result of applying different vocal emotions

[from table 2] to different portions of text; column 11, line 1. Values shown in Table 2

are input to the speech synthesizer, Column 10, line 42.).

25.   Consider claim 21, Henton teaches the speech style sheet according to claim 17,

wherein said low level markup defines at least one of a pitch, a prosody, a voice quality,

a duration, a tremor, a timbre, speed, an intonation, a timing, a volume, and a

pronunciation rule (Table 2 gives examples of the defined emotions of the preferred

embodiment of the present invention with their associated vocal emotion values; column

9, line 56. Table 2, shows pitch mean, range, volume, and speaking rate.).

26.   Consider claim 22, Henton teaches the speech style sheet according to claim 17,

wherein said at least one voice style represents style characteristics such as an age, an

educational level, an emotion, a feeling, a physical trait, a personality trait, and a speech

category (Henton teaches a method for automatic application of vocal emotion

parameters, abstract.).

27.   Consider claim 23, Henton teaches the speech style sheet according to claim 17,

wherein said speech style sheet is at least one of a programming object, a programming

module, a computer program, or a computer file (Figure 1, device contains a memory

for holding said vocal emotions parameters associated with emotions, column 4, line 54.

The parameters must be saved in a computer file or program object to be stored by

memory.).

28.   Consider claim 24, Henton teaches an apparatus (figure 1), comprising:

a processor having access to at least one speech style sheet (CPU 11,

connected to memory 17. Memory holds vocal emotion parameters associated with

emotions; column 4, line 54.), said at least one speech style sheet containing a

definition of a voice style associated with a voice-type, and said definition relating a high

level markup of said voice-type to a low level markup of said voice-type (Device

contains a memory for holding said vocal emotions parameters associated with

emotions, column 4, line 54. Associations are shown in table 2. Figures 2-4 show

marking up text using color coding, bolding, and font size to associate emotions with

text for emotions; column 9, line 7.), wherein said processor is operative to convert said

high level markup to said low level markup (Look up synthesizer values for chosen

emotion in emotion table [table 2], step 505. Apply speech synthesizer vocal emotion

values to the chosen text, step 507.);

a user interface device for applying said at least one voice style to text

associated with said voice-type, said user interface being in communication with said

processor (Figure 1, a keyboard 13, or other textual input device such as a write-on

tablet or touch screen, provides input to the CPU/memory unit 11, as does input

controller 15 which by way of example can be a mouse, a 2-D trackball, a joystick, etc.;

column 5, line 22.); and

an output device connected to said processor for converting said text with said

low level markup to speech (figure 1, output 21. Values shown in Table 2 are input to

the speech synthesizer, Column 10, line 42.).

29.   Consider claim 25, Henton teaches the apparatus of claim 24, wherein said

processor includes at least one of a text-to-speech engine (The preferred manner in

which this invention would be implemented is in the context of creating vocal emotions

that may be associated with text that is to be read by a text-to-speech synthesizer;

column 9, line 15.) and a text normalizer (a simple linear normalization is then

performed in the preferred embodiment of the present invention in order to translate the

graphical modifications to the resulting vocal emotion effect; column 9, line 38).

30.   Consider claim 26, Henton teaches the apparatus according to claim 24, wherein

said low level markup defines at least one of a pitch, a prosody, a voice quality, a

duration, a tremor, a timbre, a speed, an intonation, a timing, a volume, and a

pronunciation rule (Table 2 gives examples of the defined emotions of the preferred

embodiment of the present invention with their associated vocal emotion values; column

9, line 56. Table 2, shows pitch mean, range, volume, and speaking rate.).

31.   Consider claim 27, Henton teaches the apparatus according to claim 24, wherein

said high level markup includes at least one of an underlining, a bolding, an italicizing, a

highlighting, a color-coding, an annotation, a coding, and an application of at least one

of a symbol, a mark, and a design (Figures 2-4 show marking up text using color

coding, bolding, and font size changes for emotions; columns 7 line 61 - 9, line 11.).

32.   Consider claim 28, Henton teaches the apparatus according to claim 24, wherein

said voice style represents at least one of an age, an educational level, an emotion, a

feeling, a physical trait, a personality trait, and a speech category (Henton teaches a

method for automatic application of vocal emotion parameters, abstract.).

33.   Consider claim 29, Henton teaches a system (Figure 1), comprising:

        a designer device for creating speech style sheets (As such, note that the

particular values shown are easily modifiable, by the system implementer and/or the

user, to thus allow for differences in cultural interpretations and user/listener

perceptions; column 9, line 61. If parameters are modifiable, one could easily create

emotional styles.);

        a speech style sheet at least partially created by said designer device , said

speech style sheet defining a voice style (Figure 1, device contains a memory for

holding said vocal emotions parameters associated with emotions, column 4, line 54.

Applicant defines the speech style sheet as a database; page 11, line 16. Therefore

Henton teaches a style sheet.);

        a text-to-speech device for receiving text associated with a voice-type (The

preferred manner in which this invention would be implemented is in the context of

creating vocal emotions that may be associated with text that is to be read by a text-to-

speech synthesizer; column 9, line 15.), said text having a high level markup associated

with said voice style (Figures 2-4 show marking up text using color coding, bolding, and

font size changes for emotions; columns 7 line 61 - 9, line 11.), said text-to-speech

device having access to said speech style sheet (CPU 11, connected to memory 17.

Memory holds vocal emotion parameters associated with emotions; column 4, line 54.)

and also having:

> a memory for storing computer executable code (figure 1, memory 17);

and

> a processor for executing the program code stored in memory (CPU 11),

wherein the program code includes;

>> code to determine, by accessing said speech style sheet, a low

level markup associated with said high level markup (Figure 5, Look up

synthesizer values for chosen emotion in emotion table [table 2], step 505.

); and

>> code to convert said high level markup of said text to said low level

markup (Apply speech synthesizer vocal emotion values to the chosen

text, step 507.); and

an output device for producing expressive speech using said text with said low

level markup, said output device in communication with said text-to-speech device

(figure 1, output 21. Values shown in Table 2 are input to the speech synthesizer,

Column 10, line 42.)

34.   Consider claim 30, Henton teaches the system according to claim 29, further

comprising:

a developer device in communication with said text-to-speech device (Figure 1, a keyboard 13, or other textual input device such as a write-on tablet or touch screen, provides input to the CPU/memory unit 11, as does input controller 15 which by way of example can be a mouse, a 2-D trackball, a joystick, etc.; column 5, line 22.), said developer device for marking text and providing said text to said text-to-speech device (Figures 2-4 show marking up text using color coding, bolding, and font size changes for emotions; columns 7 line 61 - 9, line 11.).

35.   Consider claim 31, Henton teaches the system according to claim 29, further comprising:

a user interface device in communication with said text-to-speech device (Figure 1, a keyboard 13, or other textual input device such as a write-on tablet or touch screen, provides input to the CPU/memory unit 11, as does input controller 15 which by way of example can be a mouse, a 2-D trackball, a joystick, etc.; column 5, line 22.), said user interface device for applying high level markup to text and providing said text to said text-to-speech device (Figures 2-4 show marking up text using color coding, bolding, and font size changes for emotions; columns 7 line 61 - 9, line 11.).

36.   Consider claim 32, Henton teaches an article of manufacture (figure 1), comprising:

a computer usable medium having computer readable program code means embodied therein for producing expressive text-to-speech (External storage 17, which

can include fixed disk drives, floppy disk drives, memory cards, etc., is used for mass

storage of programs and data; column 5, line 26. Method, figure 5.), comprising:

computer readable program code means for identifying text to convert to

speech (select text, step 501);

computer readable program code means for selecting a speech style

sheet from a set of available speech style sheets, said speech style sheet

defining desired speech characteristics (Choose vocal emotion for selected text;

step 503);

computer readable program code means for marking said text to associate

said text with said selected speech style sheet (figures 2-4 show marking text

with colors, size, and boldface in order to associate text with a speech style); and

computer readable program code means for converting said text to

speech having said desired speech characteristics by applying a low level

markup associated with said speech style sheet (Look up synthesizer values for

chosen emotion in emotion table [table 2], step 505. Apply speech synthesizer

vocal emotion values to the chosen text, step 507.).

37.   Consider claim 33, Henton teaches a system for producing expressive text-to-

speech, (system figure 1, Method figure 5), comprising:

means for identifying text to convert to speech (select text, step 501);

means for selecting a speech style sheet from a set of available speech style

sheets, said speech style sheet defining desired speech characteristics (Choose vocal

emotion for selected text; step 503);

means for marking said text to associate said text with said selected speech style

sheet (figures 2-4 show marking text with colors, size, and boldface in order to

associate text with a speech style); and

means for converting said text to speech having said desired speech

characteristics by applying a low level markup associated with said speech style sheet

(Look up synthesizer values for chosen emotion in emotion table [table 2], step 505.

Apply speech synthesizer vocal emotion values to the chosen text, step 507.).

Conclusion

38.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure is included on the notice or references cited (PTO-892).

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Douglas C. Godbold whose telephone number is (571)

270-1451. The examiner can normally be reached on Monday-Thursday 7:00am-

4:30pm Friday 7:00am-3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Patrick Edouard can be reached on (571) 272-7603. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

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DCG

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